

Application Number 10/775,500

Amendment responsive to Office Action mailed August 10, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended) A method comprising:

creating a data encoded object beam from an interior portion of an input light beam source using a spatial light modulator that includes a set of controllable optical elements; and
creating a reference beam from a perimeter portion of the input light beam source.

2. (Currently amended) The method of claim 1, ~~wherein the spatial light modulator includes a set of controllable optical elements~~, the method further comprising optically directing the perimeter portion of the input light beam source with a perimeter reference zone positioned around the set of controllable optical elements of the spatial light modulator.

3. (Original) The method of claim 2, wherein the perimeter reference zone comprises a non-controllable optical element extending around the set of controllable optical elements.

4. (Original) The method of claim 2, wherein the perimeter reference zone comprises a reference mask.

5. (Currently amended) The method of claim 2, wherein the perimeter reference zone optically adjusts one or more optical characteristics of the perimeter portion of the input light beam source.

6. (Original) The method of claim 2, wherein the set of controllable optical elements includes transmissive optical elements and the perimeter reference zone comprises a non-controllable transmissive optical element.

Application Number 10/775,500

Amendment responsive to Office Action mailed August 10, 2005

7. (Original) The method of claim 2, wherein the set of controllable optical elements include reflective optical elements and the perimeter reference zone comprises a non-controllable reflective optical element.

8. (Original) The method of claim 1, further comprising optically directing the data encoded object beam and the reference beam into a medium such that the data encoded object beam and the reference beam interfere to create a hologram in the medium.

9. (Currently amended) A spatial light modulator comprising:

a set of controllable optical elements to create a data encoded object beam from an interior portion of an input light beamsource; and

a perimeter reference zone positioned around the set of controllable optical elements to create a reference beam from a perimeter portion of the input light beamsource.

10. (Original) The spatial light modulator of claim 9, wherein the perimeter reference zone comprises a reference mask.

11. (Currently amended) The spatial light modulator of claim 9, wherein the perimeter reference zone optically adjusts one or more optical characteristics of the perimeter portion of the input light beamsource.

12. (Currently amended) The spatial light modulator of claim 9, wherein the perimeter reference zone optically adjusts a phase of the perimeter portion of the input light beamsource.

13. (Currently amended) The spatial light modulator of claim 9, wherein the perimeter reference zone optically adjusts a polarization of the perimeter portion of the input light beamsource.

Application Number 10/775,500

Amendment responsive to Office Action mailed August 10, 2005

14. (Original) The spatial light modulator of claim 9, wherein the set of controllable optical elements include transmissive optical elements and the perimeter reference zone comprises a non-controllable transmissive optical element.

15. (Original) The spatial light modulator of claim 9, wherein the set of controllable optical elements include reflective optical elements and the perimeter reference zone comprises a non-controllable reflective optical element.

16. (Original) The spatial light modulator of claim 9, further comprising a control unit to control the set of controllable optical elements and define bit maps in the data encoded object beam for storage as holograms.

17. (Currently amended) A method comprising:

creating a data encoded object beam from a perimeter portion of an input light

beamsource using a spatial light modulator that includes a set of controllable optical elements;

and

creating a reference beam from an interior portion of the input light beamsource using the spatial light modulator.

18. (Currently amended) The method of claim 17, ~~wherein the spatial light modulator includes a set of controllable optical elements,~~ the method further comprising optically directing the interior portion of the input light beamsource with an interior reference zone positioned inside a set of controllable optical elements of the spatial light modulator.

Application Number 10/775,500

Amendment responsive to Office Action mailed August 10, 2005

19. (Currently amended) A holographic data storage system comprising:

a holographic medium; and

spatial light modulator including a set of controllable optical elements to create a data encoded object beam from an interior portion of an input light beamsource, and a perimeter reference zone positioned around the set of controllable optical elements to create a reference beam from a perimeter portion of the input light beamsource, wherein the data encoded object beam and reference beam interfere in the holographic medium to create a hologram.